Detailed PVS Submittal Guidelines Matrix	
Minimum Content	**Content Description**
Certification Certificate	**The Certification Certificate provides a statement of Certification/Recertification from the owner/user affirming that the System meets required Center PVS requirements. The PSM Office concurs with the Certification Certificate as an additional signatory.**
Certification Report Number	
Certification Start/End Date	
Approval/Signatures	
Risk Assessment Code	**The Risk Assessment Code provides an overall risk ranking of the PVS as an indicator of it's relative risk based on the evaluations performed and the documentation available.**
Risk Ranking	Provide the overall Risk Assessment Code along with the supporting tables and data used to determine the ranking.
System Description	**The System Description provides a basic overview of the system including start and end points, commodity, intended use, and major components. It also identifies significant known limitations and risks related to system certification.**
Location	Identify the physical location of the PVS.
System Boundaries	Identify the PVS certification boundaries.
System Interfaces	Identify all interface points with other PVS as applicable. Provide the interfacng systems PVS Certification Report numbers if known.
Design and Operating Pressures and Temperatures (MAWP, MOP, MDMT)	Provide the system design and normal operating pressures and temperatures.
Drawings/Schematics List	Identify applicable Drawings and Schematics.
Photos	Provide any necessary photos to help describe the system.
Waivers (MR/RID etc)	Identify relevant Waivers approved for this system.
Exclusions	Identify relevant Exclusions approved for this system.
List of Non-Conformances	Provide Open Nonconformances. For those that are accepted for use, provide supporting rationale and risk acceptance.
System History	**The System History provides the operational and modification history that is relevant any time a system is undergoing certification/recertification. The previous approved certification report, if applicable, may be adequate where no modifications/alterations/repairs have occurred.**
Operating History	Provide operating history of the system to include pressure/thermal cycles, years in operation, extended down time(s), etc.
Record of System Modifications	Provide engineering support data for any changes in service, commodity, pressure, temperature. Necessary when system is being modified or used for a different purpose. If initial certification information is unchanged, a system being recertified can reference the initial certification.
Design Changes	Provide Engineering Design Analysis data for any completed system design changes.
Pending Design Changes	Provide Engineering Design Analysis data for any proposed system design changes.
Repair/Alteration History	Provide Repair/Alteration Package for any repairs affecting the system. Repair package should include all engineering support data for the repair including calculations, drawings, NDE, test and inspection, welder qualifications, etc. (This does not include gasket replacements, packing, etc.)
Engineering Analysis and Design Verification	**The Engineering Analysis and Design Verification identifies the codes, specifications, and standards used as the system basis of design. It also identifies the system/vessel(s) design and operating pressures, temperatures, commodity, materials, and verifies the applicability of these parameters to be within the system certification requirements.**
System(s)	Identify as B31.3, API, etc. State design and operating parameters; MAWP/MOP/Temperatures/Commodity State structural support requirements met and provide documentation. (i.e. pipe stress analysis) State system allowed and remaining life. Provide Component Verification Matrix; listed, unlisted, material compatibility. Provide engineering documentation to support all stated parameters. This documentation may/could include manufacturer specification sheets, drawings, code calculations, or other verified data. Engineering analysis should identify and address all applicable damage mechanisms.
Vessel(s)	Identify as Code, non-Code, ASME Division, Design Specification, etc. State MAWP/MOP/Temperatures/Commodity State material compatibility and structural support requirements met. (i.e. saddle calculations) State vessel allowed and remaining life. Provide engineering documentation to support all stated parameters. This documentation may/could include manufacturer specification sheets, drawings, code calculations, or other verified data. Engineering analysis should identify and address all applicable damage mechanisms.
Relief Device(s)	Identify as Code, non-Code, Design Specification, etc. State setpoint, rated flow vs. required flow, and verification of zero thrust mechanism(s). Provide engineering documentation to support all stated parameters. This documentation may/could include manufacturer specification sheets, drawings, code calculations, or other verified data.
Oxygen Compatibility Assessment (TBD)	Identify Oxygen Compatibility Assessment (OCA), as applicable.
Process Safety Management (TBD)	Identify Process Safety Management Plan, as applicable. (Covered Commodities/Quantity)

Vessel/Component Meta-data	Provide any Vessel/Component Cut Sheets, with traceability to the specific components being certified in the system. May include full Acceptance Data Package.
Inspection and Testing (As Applicable)	**The Inspection and Testing provides documentation of completed inspections/tests performed that confirm design parameters or resolve any engineering or fabrication concerns. Provide the specific credentials qualifying any personnel where NCS requires specific skill set.**
Pressure Tests Records	Provide records of mechanical integrity hydrostatic and pneumatic pressure tests performed. Could include Manufacturers test reports and/or U-1(A) Form.
Leak Tests	Provide records of leak tests performed. Could include operations/maintenance test reports. Includes sensitive, pressure decay, helium mass spec, etc. as applicable.
Visual Examination (External/Internal)	Provide statement of satisfactory results and records of examinations performed.
Ultrasonic Thickness Examination	Provide statement of satisfactory results and records of examinations performed.
Charpy Testing	Provide statement of satisfactory results and records of testing performed.
Magnetic Particle	Provide statement of satisfactory results and records of examinations performed.
Liquid Dye Penetrant	Provide statement of satisfactory results and records of examinations performed.
Radiography	Provide statement of satisfactory results and records of examinations performed.
Acoustic Emmission	Provide statement of satisfactory results and records of examinations performed.
Other NDE	Provide statement of satisfactory results and records of examinations performed.
In-Service Inspection (ISI) Plan	**The ISI Plan provides a schedule for recertification and planned inspections required to maintain the PVS certification. Inspections and their periodicity should be based on the engineering analyses and inspections performed during the certification process along with Code and NASA specific requirements. ISI Plans should be updated as new inspection results and/or system conditions warrant.**
Vessels	Identify the applicable inspections required, their last performed date and their due date.
System Piping/Tubing/Valves/etc.	Identify the applicable inspections required, their last performed date and their due date. This inspection should include all system components such as insulation, expansion joints, sight glasses, etc.
Support Structures	Identify the applicable inspections required, their last performed date and their due date.
Safety Relief Valves	Identify the applicable inspections required, their last performed date and their due date.
Pressure Gauges	Identify the applicable inspections required, their last performed date and their due date.
Flex hoses	Identify the applicable inspections required, their last performed date and their due date.